CLAIMS

1. A process for the oxidation of thioethers to sulfoxides or sulfones or for the oxidation of sulfoxides to sulfones by treatment of thioethers or sulfoxides with an oxidizing amount of ε-phthalimidoperhexanoic acid.

2. A process as claimed in claim 1, wherein a thioether is oxidized to sulfoxide and a sulfoxide is oxidized to sulfone, wherein ε-phthalimidoperhexanoic acid is used in amount ranging from 0.8 to 1.5 equivalents per equivalent of substrate.

3. A process as claimed in claim 1 wherein a thioeter is oxidized to a sulfone, wherein ε-phthalimidoperhexanoic acid is used in amounts ranging from 1.5 to 3 equivalents per equivalent of substrate.

4. A process as claimed in any one of claims 1 to 3, wherein the oxidation is carried out at a temperature ranging from -20°C to the reflux temperature of the solvent, for a reaction time ranging from 0.5 to 24 hours.

5. A process as claimed in any one of claims from 1 to 4, wherein the oxidation is carried out in a water-miscibile or immiscibile, protic or aprotic organic solvent.

6. A process as claimed in claim 5, wherein the solvent is selected from aliphatic or aromatic chlorides, aromatic hydrocarbons, esters of a carboxylic acid, alkyl carbonates, alkanols, alkyl or cycloalkyl ketones, or mixtures thereof.

7. A process as claimed in claims 1 for the preparation of a biologically active compound containing a sulfinyl or sulfonyl group.

8. A process as claimed in claim 7, wherein the biologically active compound is selected from the group consisting of modafinil, modafinil-sulfone, sulindac, sulindac-sulfone, dapsone, omeprazole, pantoprazole, lansoprazole, timoprazole, picoprazole, rabeprazole and exomeprazole.

9. A process as claimed in claim 1, wherein the intermediate compound

containing a thioether group is selected from the group consisting of:

1-(4-fluorophenyl)-2-(4-methylthio-phenyl)-ethanone;

(Z)-5-fluoro-2-methyl-1-[[4-(methylthio)-phenyl]methylene]-1H-indene-3-acetic acid;

2-[(diphenylmethyl)thio]acetic acid;

2-[(diphenylmethyl)thio]acetamide;

4,4'-thiobisbenzenamine;

(5-methoxy-2[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]thio]-1H-benzimidazole);

(5-difluoromethoxy)-2-[(4-chloro-3-methoxy-2-pyridinyl)methyl]thio-1H-benzimidazole;

(5-difluoromethoxy-2[[3,4-dimethoxy-2-pyridinyl)methyl]thio]-1H-benzimidazole);

(2-[[[methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]thio]-1H-benzimidazole];

(2-[[(2-pyridinyl)methyl]thio]-1H-benzimidazole);

(5-ethoxycarbonyl-6-methyl-2[[(3-methyl-2-pyridinyl)methyl]thio]-1H-benzimidazole);

(2-[[[3-methyl-4-(3-methoxypropoxy)-2-pyridinyl]methyl]thio]-1H-benzimidazole); and

(S) (5-methoxy-2[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]thio]-1H-benzimidazole).

10. A process as claimed in claim 1, wherein the intermediate compound containing a sulfoxide group is selected from the group consisting of sulindac, modafinil, 1-(4-fluorophenyl)-2-(4-methylsulfinyl-phenyl)-ethanone and 2-[(diphenylmethyl)sulfinyl]acetic acid.